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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/819,578	03/28/2001	Ahmed A. Busnaina	837BUS-X	3505

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James Marc Leas
37 Butler Drive
S. Burlington, VT 05403

EXAMINER

MARKOFF, ALEXANDER

ART UNIT	PAPER NUMBER
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1792

MAIL DATE	DELIVERY MODE
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12/01/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/819,578	Applicant(s) BUSNAINA, AHMED A.	
	Examiner Alexander Markoff	Art Unit 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18, 22, 23, 59-78, 80, 81 and 99-112 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18, 22-23, 59-78, 80-81 and 99-112 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/14/08 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-18, 22-23, 59-81 and 99-102 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The applicants amended the claims to recite the specific orientation of the side of the substrate, which has a conductive film thereon. Such is not supported by the original disclosure.

Response to Amendment

4. The applicants amended the claims to recite substrates comprising conductive films. Such is not supported by the parent application. Thereby the prior art is applied taking in consideration that none of the claims has priority of the parent application for the entire scope.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 1-18, 22-23, 59-78, 80--81 and 99-112 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanno et al (US Patent No 6,199,567) in view of WO 01/08200, Matsushita et al (US Patent No 5,071,776) and JP 4-87675.

Kanno et al teach that it was known to clean wafer with conductive metal films with liquids and megasonic as claimed. See entire document, especially Figures 7, 9-11 and the related description. Kanno et al teaches the claimed frequencies. Kanno et al do not teach the use of the apparatus as claimed.

However, the use of apparatuses with overflow and transducers parallel to both sides of the wafer for cleaning the wafers were known in the art as evidenced by WO 01/08200 and Matsushita et al.

Moreover, Matsushita et al teach such apparatuses as an alternative to the apparatuses with the transducers at the bottom of the tank, which are disclosed by Kanno et al.

JP 4-87675 teaches apparatuses with overflow as alternative to the apparatus without overflow.

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It would have been obvious to an ordinary artisan at the time the invention was made to use the apparatuses having construction disclosed by WO 01/08200 and Matsushita et al in the method of Kanno et al with reasonable expectation of adequate results in order to obtain benefits of the apparatuses.

It is noted that it is not clear from Matsushita et al whether or not the overflow of the apparatus presented on Figures 11a-b and 12a-c is over two sides. However, it reasonably believed that the same overflow as shown on Figures 2 and 6 is referenced by the document. Alternatively, it would have been obvious to provide overflow on two sides, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8 and because JP 4-87675 teaches that such apparatuses were known in the art.

As to the embodiments of Figures 8 and 9: Matsushita et al do not specifically show overflow on these figures because these figures show a cut away views of the apparatuses. However, Matsushita et al specifically teach overflow for other embodiments. It is reasonably believed that the embodiments shown on Figures 8 and 9 are also provided with overflow to provide functioning recited by Matsushita for other embodiments. In alternative it would have been obvious to an ordinary artisan to provide the overflow into the apparatuses shown on Figures 8 and 9 to enable continuous flow required by Matsushita et al.

Again, it reasonably believed that the same overflow as shown on Figures 2 and 6 is present in the apparatuses of Figures 8 and 9. Alternatively, it would have been obvious

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to provide overflow on two sides, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8 and because JP 4-87675 teaches that such apparatuses were known in the art.

It is noted that WO 01/08200 does not teach the overflow at two sides.

See entire document, especially Figure 1 and the related description.

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide overflow on two sides, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8 and because JP 4-87675 teaches that such apparatuses were known in the art.

Response to Arguments

9. Applicant's arguments filed 3/14/08 have been fully considered but they are not persuasive.

The applicants argue that the rejection made under 35 USC 112(1) is not proper because the specification recites metallic films.

This is not persuasive because the claims are not limited to metallic films. The claims recite conductive films. Conductive films are much broader term, which also includes different types of silicon, silicides, etc.

Thereby the scope of the instant claims is not supported by the disclosure and the disclosure of the parent application.

The applicants argue that Matsushita et al do not teach overflow for the embodiments presented on Figures 8 and 9.

Such is not persuasive:

First, the document teaches overflow for the embodiments of Figures 11a-b and 12a-c, which is also readable on the most of the claims.

Second, the embodiments of figures 8 and 9 are addressed the rejection above.

The applicants argue that some claims require “providing a single substrate”. The applicants allege that Matsushita teaches away from single wafer processing.

This is not persuasive because the claims are written using language “comprising”. Thereby, the claims do not exclude “providing” additional substrates.

The applicants argue that the WO document should be removed as the prior art. The applicants base their arguments on the assumption that the last amendment made all independent claims supported by the disclosure of the parent application. These is not persuasive because of the reasons provided above in the rejection made under 35 USC 112(1).

The applicants again argue that it would not have been obvious to provide second overflow in WO 01/08200.

This is not persuasive because it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Markoff whose telephone number is 571-272-1304. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on 571-272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Alexander Markoff
Primary Examiner
Art Unit 1792

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Primary Examiner, Art Unit 1792